

## ABSTRACT OF THE DISCLOSURE

A method and system for detecting the potential of an x-ray imaging system to create images with scintillator hysteresis artifacts includes examining an x-ray image to measure two signal levels for two areas of interest, then determining a difference between the two signal levels and comparing the difference to a threshold. The signal levels can be measured by determining an amount of electrical charge discharged in photodiodes of the detector. If the difference in signals is greater than the threshold amount, then the possibility exists that scintillator hysteresis artifacts may be produced in images. In addition, the present invention also provides for the elimination or reduction in magnitude of scintillator hysteresis artifacts in images produced by an x-ray imaging system. After the possibility of scintillator hysteresis artifacts is detected, the detector can be irradiated with an x-ray flux to eliminate or reduce the magnitude of the artifacts in images produced by the x-ray imaging system.